

International Classification of Functioning, Disability and Health (ICF)

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Lecture Outline



This lecture reviews the use of outcome measures (OMs) in physical therapy (PT) practice under the following headings;

- ❖ Terminology related to uses of ICF in clinical practice
- ❖ Implement and understand how it can be used in the context of measurement.

ICF background

The ICF provides a standard language and framework for the description of health and health-related states that may be affected by a health condition **to describe**

- Changes in body function and structure,
- What a person can do in a standard environment
(level of capacity)
- What a person can do in their usual environment
(level of performance)

A classification system – not a measurement tool

ICF background

- ICF was endorsed in May 2001 by **191 nations**, including the United States.
- The ICF integrates the major models of disability.
- In 2008, APTA joined to WHO
- ICF endorsed by the APTA, AOTA, and ASHA as well as other American healthcare organizations.
- Growing body of outpatient therapy clinical research using ICF since 2001.



ICF online Browser

- <http://apps.who.int/classifications/icfbrowser/>

How can ICF be used



Health service provision

- Individual
- Institutional
- Society



Research uses

- Outcome measures
- Interventions studies

Amis of ICF

Provide a **SCIENTIFIC BASIS** for understanding and studying health and health-related states.

Improve **COMMUNICATION** between health care workers, researchers, policy and people with disabilities through establishing a **COMMON LANGUAGE** for describing health and health related states

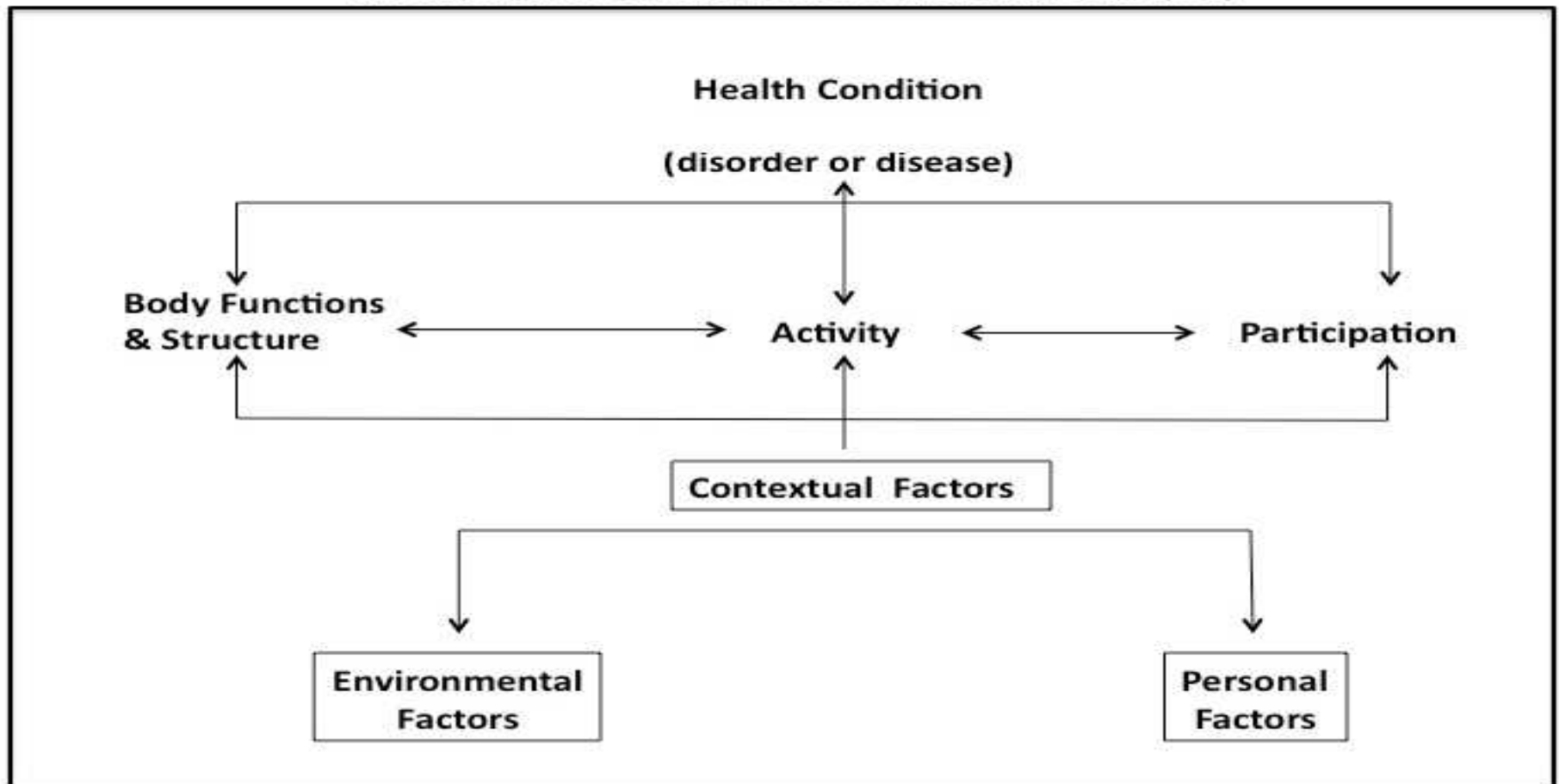
Allow **DATA COMPARISON** across
(Countries, health care disciplines, services and time)

Provide a **SYSTEMATIC CODING SCHEME** for health information systems.

Human Functioning

- **ICF does not measure disability**
 - It describes people's functional abilities in various domains
- **Health conditions that affect functional status are not part of classification system**
- **Disability is not an "all or none" concept**
 - There is a wide range of functional limitations

Conceptual Model of ICF



Key ICF Definitions

Part 1: Functioning and Disability

Part 2: Contextual Factors

Body Functions
&
Structures



Functions & Structures
Integrity

Impairment

Activities
&
Participation



Capacity
Performance

Activities limitation
Participation restrictions

Environmental /personal
Factors



Facilitators/no applicable **+**

Barriers / hindrances

List of chapters in the ICF

• **Body Functions**

- Chapter 1 Mental Functions
- Chapter 2 Sensory Functions and Pain
- Chapter 3 Voice and Speech Functions
- Chapter 4 Functions of the Cardiovascular, Hematological, Immunological and Respiratory Systems
- Chapter 5 Functions of the Digestive, Metabolic, and Endocrine Systems
- Chapter 6 Genitourinary and Reproductive Functions
- Chapter 7 Neuromusculoskeletal and Movement-related Functions
- Chapter 8 Functions of the Skin and Related Structures

Body Structures

- Chapter 1 Structures of the Nervous System
- Chapter 2 The Eye, Ear and Related Structures
- Chapter 3 Structures Involved in Voice and Speech
- Chapter 4 Structures of the Cardiovascular, Immunological and Respiratory Systems
- Chapter 5 Structures Related to the Digestive, Metabolic, and Endocrine Systems
- Chapter 6 Structures Related to the Genitourinary and Reproductive Systems
- Chapter 7 Structures Related to Movement
- Chapter 8 Skin and Related Structures

List of chapters in the ICF

- Activities & Participation
 - Chapter 1 Learning and Applying Knowledge
 - Chapter 2 General Tasks and Demands
 - Chapter 3 Communication
 - Chapter 4 Mobility
 - Chapter 5 Self-care
 - Chapter 6 Domestic life
 - Chapter 7 Interpersonal Interactions and Relationships
 - Chapter 8 Major Life Areas
 - Chapter 9 Community, Social and Civic Life

List of chapters in the ICF

Environmental

- Chapter 1 Products and Technology
- Chapter 2 Natural Environment and Human-Made Changes to Environment
- Chapter 3 Support and Relationships
- Chapter 4 Attitudes
- Chapter 5 Services, Systems and Policies[

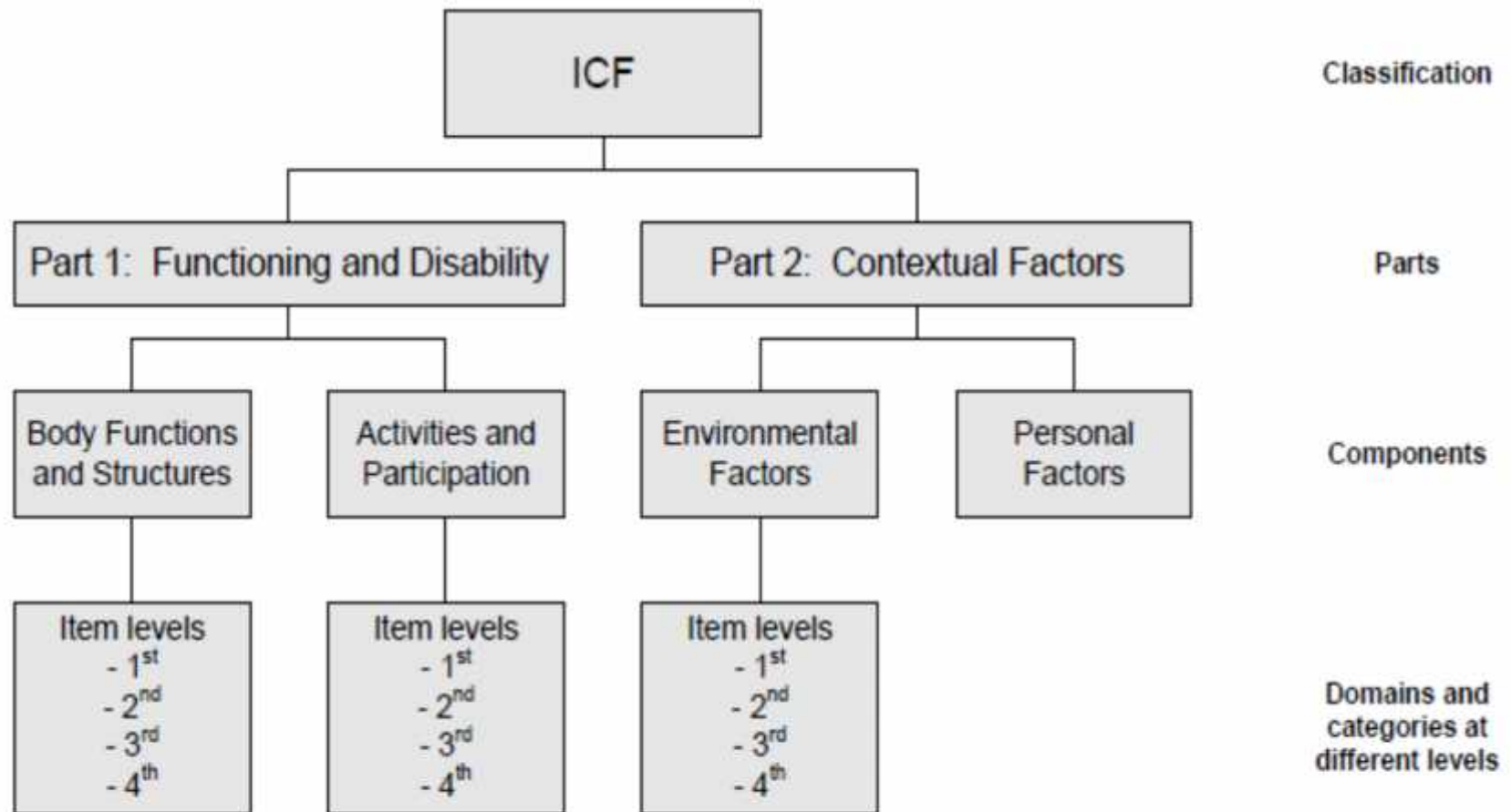


**World Health
Organization**

personal Factors

- Age
- Race
- Gender
- Food preferences
- Individual psychological assets
- Fitness
- Lifestyle
- Habits
- Upbringing
- Coping Styles
- Education
- Social Background

Domains of ICF



Adapted from the World Health Organization *International Classification of Functioning, Disability and Health (ICF) model*, WHO 2001.

ICF coding system

The units of the ICF classification are called ICF categories, denoted by unique alphanumeric codes

- ❖ Body structures (s)
- ❖ Body functions (b)
- ❖ Activities and Participation (d)
- ❖ Environmental Factors (e)

Example within the component Activities and Participation:

- **d7**-Interpersonal interactions and relationships (**first/chapter level**)
- **d710** Basic interpersonal interactions (**second level**)
- **d7104** Social cues in relationships (**third level**)
- **d71040** Initiating social interactions (**fourth level**)

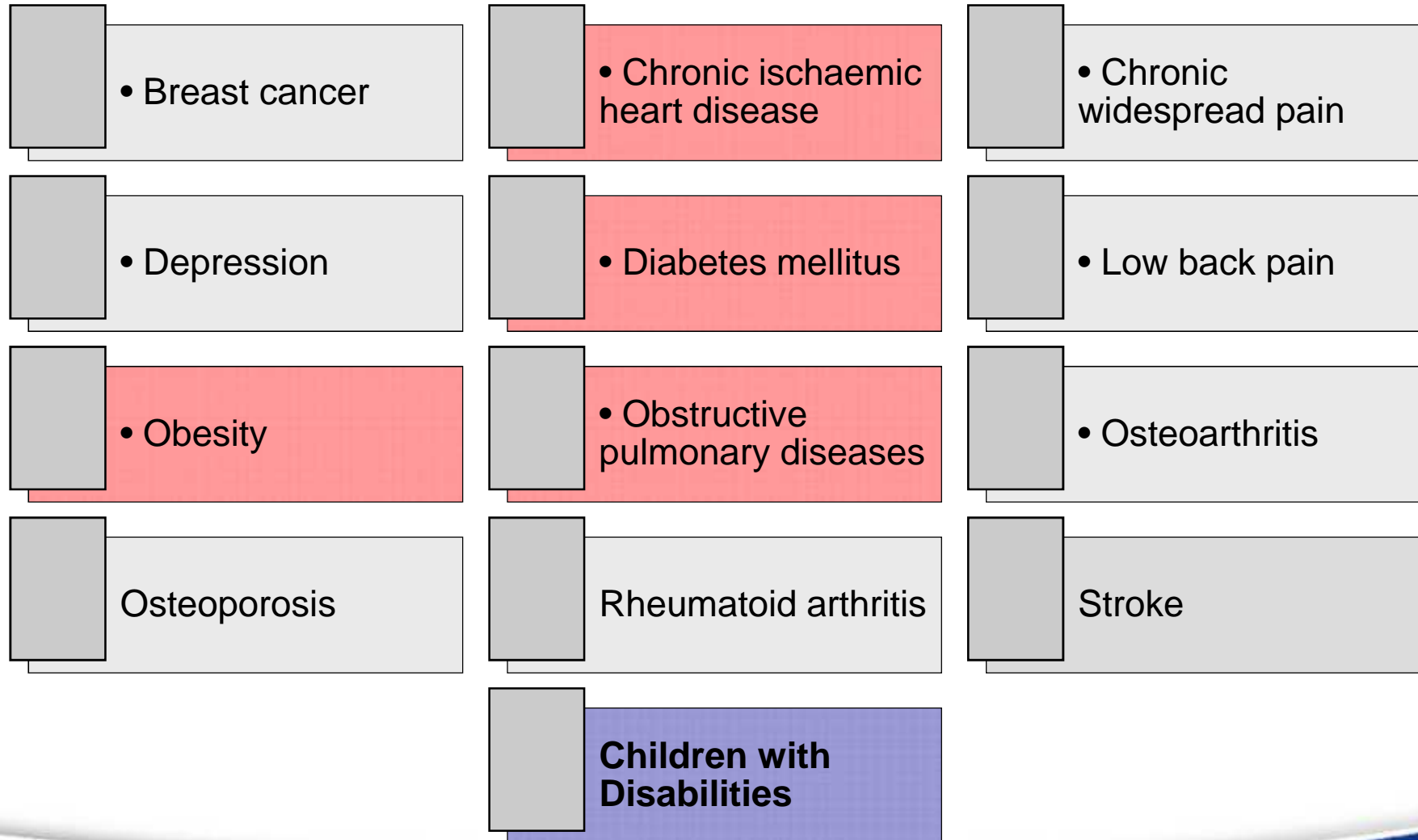
Outcome Measures Across the ICF

ICF Core Sets are sets of categories (lists of domains that cover the range of functioning) that apply to particular patient groups or conditions (diseases) and have been developed using rigorous professional consensus techniques involving international experts

Value of ICF core Sets

- It is intended that these subsets can serve as “minimal standards for the assessment, communication and reporting of functioning and health for clinical studies, clinical encounters and multi-professional comprehensive assessment and management purposes”.

Developed core sets of ICF



Development of the ICF Core Sets for children and youth with CP

- To identify which ICF categories best represent the functional profile of children and youth with Cerebral Palsy (CP) aged 0 to 18 years of age.

ICF Core Sets development methodology

Preparatory Phase

Researcher perspective
Systematic review

Expert perspective
Expert survey study

Children & youth
and caregivers perspective
Qualitative study

Clinical perspective
Clinical study

2009-2013

Phase I

ICF Core Sets
Consensus
Meeting



1st version of
ICF Core Sets for
*Children & Youth
with CP*

Vancouver, 2013

Phase II

Knowledge
translation

Implementation

Cultural validation

of

ICF Core Sets for
*Children & Youth
with CP*

2014- ongoing

FIVE

ICF Core Sets for CP

Comprehensive Core Set

0-18 y **135 ICF Categories**

Purpose: complete and detailed description of functioning.

Users: interdisciplinary teams

Common Brief Core Set

0-18 y **25 ICF Categories**

Purpose: description of most relevant areas of functioning. Minimal data set.

Users: interdisciplinary teams, single users

Age-Specific Brief ICF Core Sets

Brief 0-6 y **31 Categories**

Brief \geq 6-14 y **35 Categories**

Brief \geq 14-18 y **37 Categories**

Purpose: Add age-appropriate categories to the Common Brief Set. Users: interdisciplinary teams, single professional

Common Pediatric Outcome Measures by ICF Categories

Body Structure/Func5on (Impairments)

- Anthropometrics
- Cardiopulmonary
- Coordina3on
- Endurance/Energy Expenditure
- Fitness Measures
- Pain
- Posture/Balance

Body Structure/Func5on (Impairments)

- Posture/Structural Integrity
- ROM
- Reflexes
- Sensory Processing
- Sparsity
- Strength/Muscle Power
- Visual Motor/Percep3on

Common Pediatric Outcome Measures by ICF Categories

Activity (Limitations)

- Gait/Walking
- Gross Motor
- Fine Motor
- Play Developmental
- Screening Tools



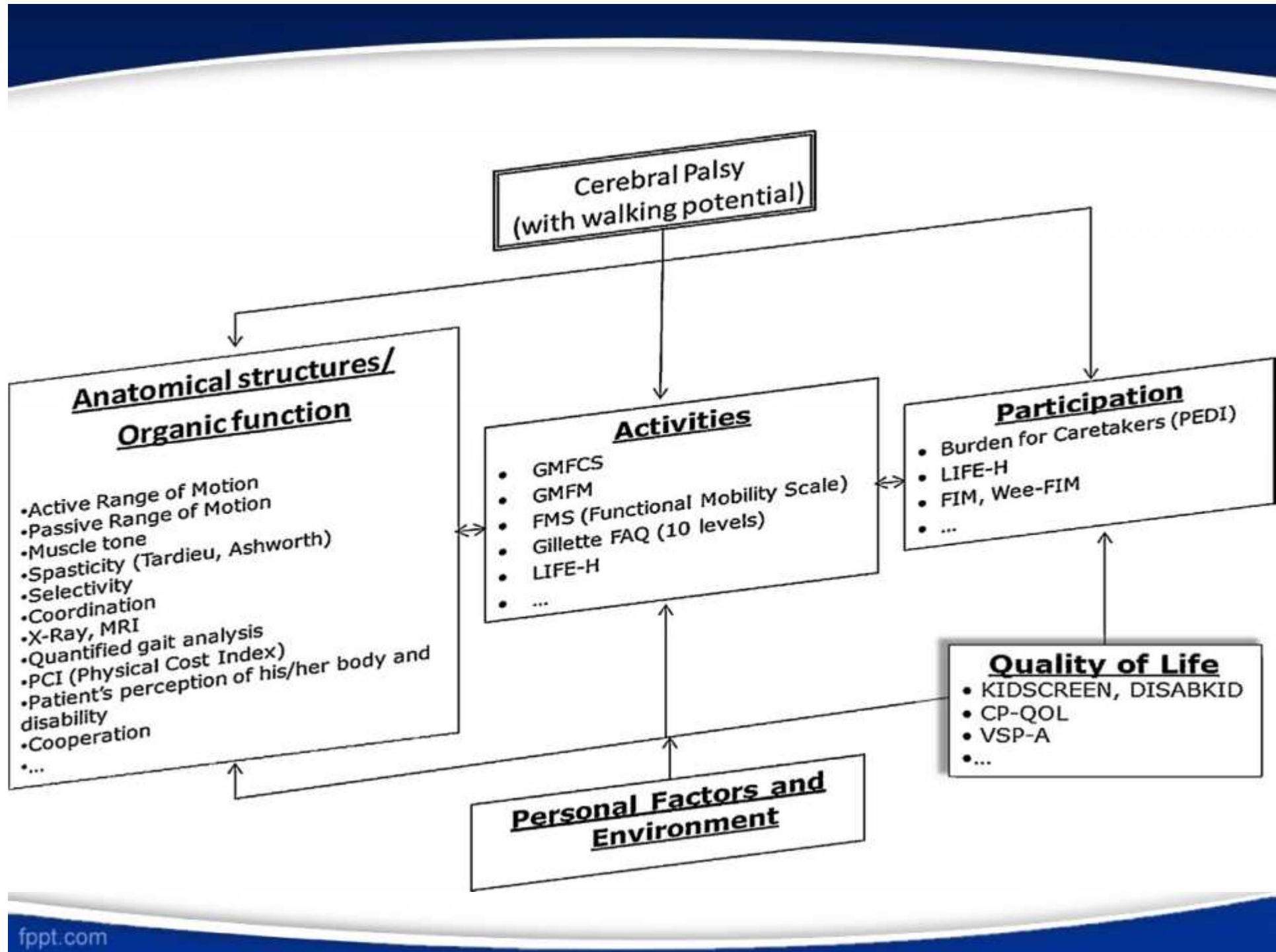
Participation (Restrictions)

*Quality of Life Health
Status*



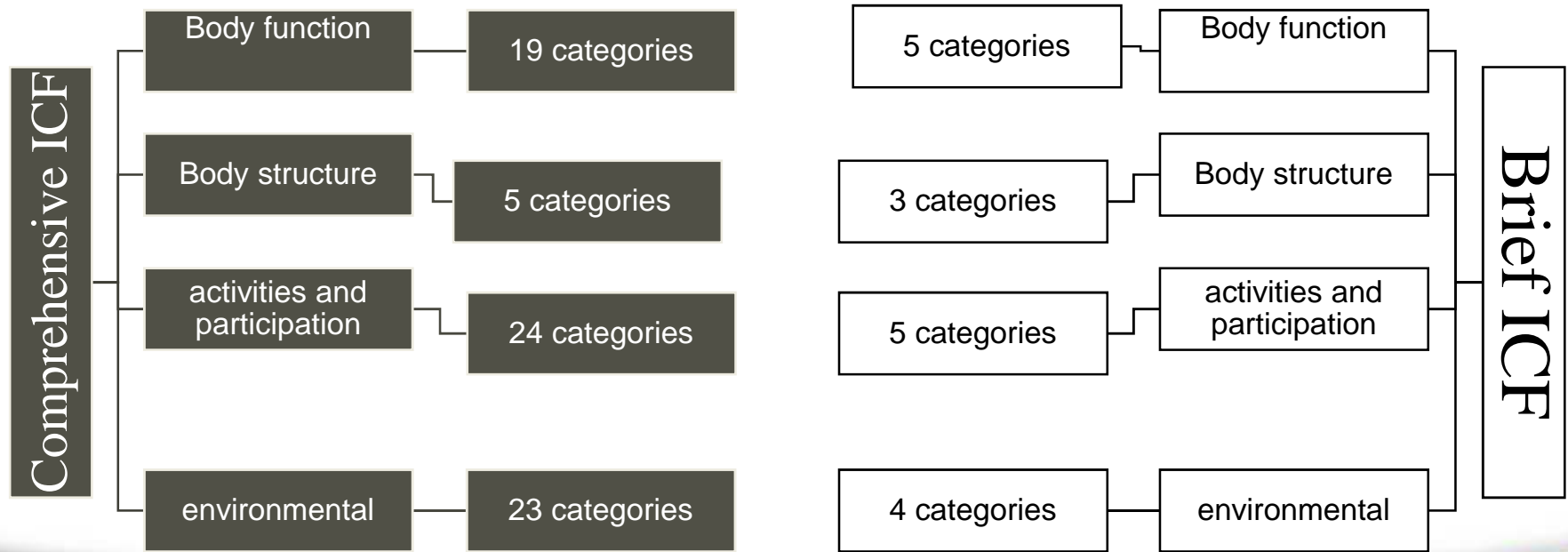
Personal/Contextual (Personal/Environmental)





Development of the ICF Core Sets for Chronic obstructive pulmonary diseases

IN 2004, 17 EXPERTS FROM EIGHT COUNTRIES with various professional backgrounds developed an ICF Comprehensive Core Set for **MULTIDISCIPLINARY ASSESSMENT** in patients with obstructive lung diseases



Health conditions
COPD

Body function & structure

Heart function

Respiratory functions

- Respiratory muscle functions
- Additional respiratory muscle functions

Exercises tolerance function

Sensations associated with cardiovascular and respiratory function

Muscle functions (power, endurance...)

Sensations related to muscles and movement functions

Structure of cardiovascular system

Structure of respiratory system

Structure of lower extremity

- Structure of trunk

Activities

Walking and moving around

Maintaining a body position

Changing basic body position

Lifting and carrying objects

Fine hand, hand and arm use

Participation

Recreation and leisure

Driving

Carrying out daily routine

Dressing

Acquisition of goods and services

- **Complex interpersonal interactions**

environmental

Products or substances for personal consumption

- **Products and technology for personal use in daily living**

- **Health services, systems, policies**
- **Climate**

Personal

Not classified

Example of common outcome measures used in COPD linked to ICF

Body Structures and Functions	Exercise Capacity		Functional Capacity			Functional Performance		
	Tests	Outcomes	Activities	Tests	Outcomes	Participation	Tests and Questionnaires	Outcome(s)
Respiration function	Spirometry, plethysmography (lung volumes)	FEV ₁ , FVC, TLC, IC	Walking	6MWT, ESWT	Maximal distance walked, time walked at the given speed	Recreation and leisure	Pedometer	Number of daily steps (physical activity quantification)
Exercise tolerance function	Incremental and endurance CPET	Vo ₂ max, time at a constant work rate	Moving around (climbing)	Glittre ADL test, 3MST, SCPT	Time to complete five laps, number of steps ascended and descended, time and velocity during the ascension	Carrying out daily routine	Pulmonary Functional Status and Dyspnea Questionnaire	Level of dyspnea during daily activities
Muscle function (power, endurance)	Isometric, isotonic, or isokinetic measurements of voluntary/nonvoluntary contractions, surface electromyography	Peak muscle torque, total amount of work performed, time to exhaustion, twitch force	Changing basic body position	5STS, GST, TUG	Test duration	Dressing, remunerative employment, recreation, and leisure	Canadian Occupational Performance Measure	Ability (score on a 1-10 scale) to perform significant problematic activities
Structure of lower extremity: muscles of the thigh	Computed tomography, bioelectrical impedance, biopsy	Muscle mass, midthigh cross-sectional area	Lifting and carrying objects	6PBRT, UULEX	Number of rings moved, test duration, and weight of the heaviest bar lifted	Complex interpersonal interactions, remunerative employment	London Chest Activity of Daily Living	Ability (score on a 1-5 scale) to perform without help daily activities